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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/587,710	BREHM, LUDWIG	
	Examiner	Art Unit	
	ALEX EFTA	1745	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *14 March 2011*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *2-18 and 29-57* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *2-18 and 29-57* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date *3/14/2011*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Summary

This is a FINAL action on the merits.

Claims 2-18 and 29-57 are pending.

Response to Arguments

1. Applicant's arguments with respect to claims 2-18 and 29-57 have been considered but are moot in view of the new ground(s) of rejection.

2. Claim 14 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

a. Specifically, Claim 4 requires that the non-hardened adhesive adheres to the magnetic layer while the hardened adhesive does not, thereby removing selected magnetic portions from the carrier. Accordingly, if the non-hardened adhesive has lower adhesive force to the magnetic layer than the magnetic layer to the carrier, the magnetic layer would not be removed therefrom.

3. Claims 32 and 45 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

b. Specifically, Claims 32 and 45 have limitations where irradiation is effected "prior to or after" application of the transfer film and 'wherein the

adhesive layer of a radiation-crosslinkable adhesive is irradiated in pattern form "prior" to application of the transfer film. Accordingly, if irradiation is effected "after" application then the limitations existing after the limitation of 'irradiated in pattern form "prior" to application of the transfer film, do not need to be met to meet the limitations of the claim.

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

5. Claims 4, 2, 12-18 and 29-31 are rejected under 35 U.S.C. 103(a) as being unpatentable over SCHMITZ et al. (US 6,491,324) in view of KAULE et al. (US 5,820,971) and UCHIYAMA et al. (JP 363030843).

6. **With respect to claim 4** SCHMITZ et al. discloses a security element for protecting objects which has at least one mechanically testable magnetic layer and at least one further layer consisting of a layer semitransparent in the visual spectral region such as a security document with such a security element (Abstract). The security element consists of a magnetic layer and a semitransparent layer covering the magnetic layer (Column 2, lines 7 through 10). The semitransparent layer of the security element

is formed by a screened layer, the individual screen elements being opaque, preferably metallic. The screen elements can have any desired form. One can use standard geometric shapes such as dots, lines, triangles, etc., as well as special patterns, umbers, letters, etc. The screen width is selected so as to effect a sufficient cover of the magnetic layer while any information present under the screened layer simultaneously also remains recognizable (Column 2, lines 30 through 40). The optically variable layers can be embossed diffraction structures representing for example cinegrams, moviegrams, or holograms (Column 8, lines 15 through 20). The magnetic layer can be provided either all over or only in certain areas independently of the kind of cover layer used. The magnetic layer is applied in the form of a coding, In particular a bar code. However, the magnetic layer can also contain gaps in the form of visually and/or machine recognizable characters (Column 2, lines 44 through 53). The security element can be incorporated at least partly into a security document. It is also conceivable, however, to form the security element in a band or label shape and fasten it to the surface of an object (Column 3, lines 1 through 8). The term “security document” is not restricted to bank notes however. It can refer to any document of value such as a check, share, ID card or the like (Column 4, lines 5 through 10). If the security element is to be provided only as a thin layer sequence on the security document, it is useful to prepare the layer sequence of the security element separately on a foil material and subsequently transfer it to the document/ first film body (Column 4, lines 16 through 24). The carrier/ transfer film, for example is a transparent plastic foil, is provided in a first step, if necessary, with separation layer which ensures that the layer structure of

security element can be detached from the carrier after transfer to the security document. A first semitransparent first cover layer is applied to the separation layer, followed by the magnetic layer. The adhesive layer is then applied over the magnetic layer for fastening. This adhesive layer can be for example a hot-melt adhesive or radiation-curable adhesive (Column 4, lines 25 through 37).

7. Accordingly, SCHMITZ et al. implicitly discloses a process for the production of a security element comprising a transfer film/carrier film with a partial magnetic coating having a radiation-curable adhesive for attaching the magnetic layer to the first carrier/security document to form the second film body including the first. The adhesive layer implicitly represents a pattern, the pattern being the shape of the transfer film.

8. Furthermore, SCHMITZ et al. discloses that if the label-like security elements are to be transferred in certain places with the aid of such a transfer foil, the transfer foil can be provided with the security element layer structure all over and the latter detached and transferred from the all-over coating only in the desired areas, e.g. by selective activation of the adhesive. Alternatively, the carrier material can already be provided with the desired single elements in spaced-apart areas (Column 4, lines 43 through 51).

9. Accordingly, SCHMITZ et al. implicitly teaches applying a partial magnetic coating to first film body.

10. SCHMITZ et al. does not specifically state that the radiation-curable adhesive is a cross linkable adhesive. However, KAULE et al. discloses a security document such as a bank note, identity card or the like, that includes at least one multilayer security element made of at least two layers of reaction lacquer or adhesive between which

diffraction structures, in particular holographic structures, exist in the firm of a relief. A reflective layer is additionally disposed between the layers of lacquer. The reaction lacquer of adhesive is the type curable or cross-linkable under physical (e.g. radiation) and/or chemical activation (Abstract). It is possible to produce embossed holograms directly on the antifalsification paper with the aid of light-curing substances in much uncomplicated fashion. Such substances are e.g. blue light-curing or delayed-curing lacquers (Column 2, lines 42 through 47). The firm compound with the document arises from the use of reaction lacquers or adhesives which adhere irreversibly to the document (Column 2, lines 59 through 63). Therefore, it would have been obvious to one having ordinary skill in the art, at the time of the invention, to use a radiation cross linkable adhesive on the magnetic layer of SCHMITZ et al. as taught by KAULE et al. so as to provide and irreversible bond between the document and security element thereby preventing falsification of value documents.

11. Accordingly, since SCHMITZ et al. teaches adhesive in patterned form, SCHMITZ et al. in view of KAULE et al. implicitly teach a hardened adhesive structured in pattern form, the pattern being the shape of the transfer film.

12. SCHMITZ et al. does not specifically state that the adhesive is applied to a first film body while the magnetic coating is applied to a second film body. *In re Japikse*, 181 F.2d 1019, 86 USPQ 70 (CCPA 1950) states that mere rearrangement of parts is held unpatentable because applying the adhesive to the second film body e.g. bank note, instead of the carrier would not have modified the operation of the device. Alternatively, KAULE et al. discloses that the bank not paper, already printed, exist in web form and is

coated locally with a special reaction adhesive in a printing unit (Column 5, lines 12 through 17). Therefore, one having ordinary skill in the art, at the time of the invention, would have considered placing the adhesive on the bank note of SCHMITZ et al. as taught by KAULE et al. so as to selectively apply the security feature to a desired part of the note.

13. Accordingly, SCHMITZ et al. in view of *In re Japiske* and KAULE et al. implicitly teach applying the adhesive in a pattern, the pattern being the shape of the transfer film, on the note/first film body and irradiating to bond the security element to the first film body.

14. SCHMITZ et al. does not specifically state that the magnetic layer remains on the first film body in the first region which is structured in pattern form and in which the adhesive layer is not hardened and is removed with the carrier film in the second region which is structured in pattern form and in which the adhesive layer is hardened. However, UCHIYAMA et al. discloses transferring a pattern to a base without swelling in a lower cost manner by hardening parts of the adhesive not opposite to the pattern with ultraviolet rays so that the pattern is attached to the body with the uncured adhesive (Abstract). Therefore, it would have be obvious to one having ordinary skill in the art, at the time of the invention, to attach the magnetic layer of SCHMITZ et al. to the security document with uncured/unhardened adhesive as taught by UCHIYAMA et al. so as to prevent swelling and to reduce the cost of providing a transfer to the security document.

15. Furthermore, SCHMITZ et al. discloses that the magnetic layer can be provided either all over or only in certain areas independently of the kind of cover layer used. The

magnetic layer may be applied in the form of a coding, or a bar code. The magnetic layer can also contain gaps in the form of visually and/or machine recognizable characters (Column 2, lines 44 through 53). If the label-like security elements are to be transferred in certain places with the aid of such a transfer foil, the transfer foil can be provided with the security element layer structure all over and the latter detached and transferred from the all-over coating only in the desired areas, e.g. by selective activation of the adhesive. Alternatively, the carrier material can already be provided with the desired single elements in spaced-apart areas (Column 4, lines 43 through 51).

16. Accordingly, SCHMITZ et al. in view of UCHIYAMA et al. teach removing the carrier film from the second film body including the first film body, the adhesive layer and the magnetic layers so that at the magnetic layers remains on the first film body where the adhesive layer is not hardened and is removed with the carrier where the adhesive is hardened.

17. **With respect to claim 2**, please refer to the rejection of claim 4. Furthermore, SCHMITZ et al. discloses that the magnetic layer can be provided either all over or only in certain areas independently of the kind of cover layer used. The magnetic layer may be applied in the form of a coding, or a bar code. The magnetic layer can also contain gaps in the form of visually and/or machine recognizable characters (Column 2, lines 44 through 53). If the label-like security elements are to be transferred in certain places with the aid of such a transfer foil, the transfer foil can be provided with the security element layer structure all over and the latter detached and transferred from the all-over coating only in the desired areas, e.g. by selective activation of the adhesive.

Alternatively, the carrier material can already be provided with the desired single elements in spaced-apart areas (Column 4, lines 43 through 51). The magnetic layer is provided additionally with gaps in the form of characters, patterns or the like (Column 5, lines 15 through 20).

18. Accordingly, SCHMITZ et al. in view of *In re Japiske* , KAULE et al. and UCHIYAMA et al. implicitly teach applying the adhesive to the first film body in pattern form, the pattern being the shape of the designated area to receive the partial magnetic coating, applying the transfer film having the partial magnetic coating to the first film body, irradiating the adhesive to remove the designated magnetic coating from the transfer film and then removing the transfer film with the unused magnetic coating thereon.

19. **With respect to claim 12**, SCHMITZ et al. does not specifically state that the adhesive is irradiated through the carrier. However, SCHMITZ et al. discloses that the carrier is a transparent plastic foil (Column 4, lines 24 through 30) and that the magnetic layer is provided additionally with gaps in the form of characters, patterns or the like and the carrier is translucent or transparent. This permits gaps to be recognized as highly contrasting characters in the surroundings formed by opaque magnetic material when viewed in transmitted light (Column 5, lines 15 through 25). Furthermore, the adhesive is radiation-curable (Column 4, lines 34 through 38). Therefore, one having ordinary skill in the art, at the time of the invention, would appreciate that the adhesive may be irradiated through the carrier.

20. **With respect to claim 13**, SCHMITZ et al. does not specifically state that the adhesive is exposed through the document. However, KAULE et al. discloses that adhesives can also use blue light-curing reaction adhesives. This method variant is shown in Fig. 5. Paper web is provided with the blue light-curing reaction adhesive in the printing unit (Column 5, lines 48 through 55). The transfer material and the paper web are brought into contact and irradiated with blue light. The reaction adhesive thereby cures within seconds since the paper is permeable to blue light. The transfer foil can then be removed from the hologram-paper compound in the usual way (Column 5, lines 56 through 60). Therefore, it would have been obvious to one having ordinary skill in the art, at the time of the invention, to use blue light-curing adhesive to bond the security element to the document of SCHMITZ et al. as taught by KAULE et al. so as to irreversibly attach the security element from the document. Subsequently, one having ordinary skill in the art, at the time of the invention, would have considered radiating through the document to cure the adhesive.

21. **With respect to claim 14,** SCHMITZ et al. does not specifically state that the adhesive force between the magnetic layer and the carrier is higher than the non-hardened adhesive and the magnetic layer. However, SCHMITZ et al. cures the adhesive to transfer the magnetic layer. Therefore, absent any evidence to the contrary, the adhesive force between the non-cured adhesive is implicitly lower than the adhesive force between the carrier and the magnetic layer.

22. **With respect to claim 15,** SCHMITZ et al. discloses that the adhesive is a radiation-curable adhesive (Column 4, lines 34 through 38). SCHMITZ et al. does not

specifically state that the adhesive is a non-conducting adhesive. However, absent any evidence to the contrary, the adhesive of SCHMITZ et al. is implicitly non-conductive as there is no evidence from SCHMITZ et al. to indicate it is so.

23. **With respect to claim 18**, SCHMITZ et al. discloses that the carrier is provided with a separation layer between the carrier and magnetic layer (Column 4, lines 24 through 37).

24. **With respect to claim 29,** SCHMITZ et al. discloses that the transfer film may consist of only a carrier film, a release layer and a magnetic layer (Columns 4 and 9, lines 22 through 40 and 1 through 10, respectively).

25. **With respect to claim 30,** SCHMITZ et al. discloses that the transfer film may consist of only a carrier film and a magnetic layer (Columns 4 and 9, lines 22 through 40 and 1 through 10, respectively).

26. **With respect to claim 31,** SCHMITZ et al. discloses that if the label-like security elements are to be transferred in certain places with the aid of such a transfer foil, the transfer foil can be provided with the security element layer structure all over and the latter detached and transferred from the all-over coating only in the desired areas, e.g. by selective activation of the adhesive. Alternatively, the carrier material can already be provided with the desired single elements in spaced-apart areas (Column 4, lines 43 through 51).

27. Accordingly, the adhesive force between the magnetic layer and the carrier film implicitly enables the release of at least a portion of the magnetic layer from the carrier film.

28. Claims 7-9 are rejected under 35 U.S.C. 103(a) as being unpatentable over SCHMITZ et al. (US 6,491,324) in view of KAULE et al. (US 5,820,971) and UCHIYAMA et al. (JP 363030843) as applied to claims 4, 2, 12-18 and 29-31 above, and further in view of YADAV (US 20040256986).

29. **With respect to claim 7**, modified SCHMITZ et al. discloses that the magnetic layer can either be printed (e.g. by screen printing) or applied by coating methods (Column 8, lines 33 through 38). Modified SCHMITZ et al. does not specifically state that the magnetic layer is a layer of magnetic particles. However, YADAV discloses that nanopigments provide color and magnetic performance and can be applied to an article of ceramic, adhesive, paper, fiber, ink or polymeric art. Such colored magnetic nanopigments may be used to create superior security documents, bar codes, inventory tracking technologies, theft prevention tolls, quality assurance, and safety products appealing to customers (Paragraph [0152]. The powders are nanoscale (Paragraph [0150]). Therefore, it would have been obvious to one having ordinary skill in the art, at the time of the invention, to use nanoscale magnetic particles for the magnetic layer of SCHMITZ et al. as taught by YADAV so as to provide superior security features for documents of value.

30. **With respect to claim 8**, modified SCHMITZ et al. discloses that the magnetic layer may be coated by screen printing onto the carrier (Column 8, lines 33 through 38) and implicitly from a solution. YADAV discloses that the magnetic particles are

nanoscale. Therefore, one having ordinary skill in the art, at the time of the invention, would appreciate that the coating of SCHMITZ et al. may contain nanoscale magnetic particles as taught by YADAV so as to provide superior security features for documents of value.

31. **With respect to claim 9**, modified SCHMITZ et al. discloses that the magnetic layer can either be printed (e.g. by screen printing) or applied by coating methods (Column 8, lines 33 through 38). Modified SCHMITZ et al. does not specifically state that the magnetic layer is applied by sputtering. However, YADAV discloses that the film can be coated by spin coating, dip coating, spray coating, ion beam coating, plasma coating, and sputtering (Paragraph [0120]). Therefore, one having ordinary skill in the art, at the time of the invention, would appreciate coating the carrier with the magnetic layer of SCHMITZ et al. by sputtering so as to apply the magnetic layer entirely over the carrier.

32. Claims 10 and 11 are rejected under 35 U.S.C. 103(a) as being unpatentable over SCHMITZ et al. (US 6,491,324) in view of KAULE et al. (US 5,820,971) and UCHIYAMA et al. (JP 363030843) as applied to claims 4, 2, 12-18 and 29-31 above, and further in view of POWER et al. (EP 0953937).

33. **With respect to claims 10 and 11**, modified SCHMITZ et al. discloses that a magnetic layer is printed or coated onto the carrier. Modified SCHMITZ et al. does not specifically state that the magnetic material is an amorphous metal glass. However,

POWER et al. discloses a security element comprising a magnetic layer and an embossed layer so as to avoid counterfeiting of value documents (Abstract (Item 57)). The soft-magnetic amorphous metal glass thin film coating may be deposited by sputtering to achieve the desired magnetic properties (Paragraph [0053]). The soft-magnetic layer consists essentially of an alloy containing cobalt, iron, silicon and boron (Paragraph [0042]). A soft-magnetic material only shows magnetic properties when exposed to a magnetic field while hard-magnetic materials show permanent magnetic properties (Paragraph [0017]). Therefore, it would have been obvious to one having ordinary skill in the art, at the time of the invention, to use soft-magnetic materials for the security element of SCHMITZ et al. as taught by POWER et al. so as to provide greater security for documents of value. Additionally, it would have been obvious to one having ordinary skill in the art, at the time of the invention, to sputter the layer of magnetic material of SCHMITZ et al. as taught by POWER et al. so as to provide the desired magnetic properties thereby allowing for tailoring of the security feature and providing for greater security of the document of value.

34. Claims 16 and 17 are rejected under 35 U.S.C. 103(a) as being unpatentable over SCHMITZ et al. (US 6,491,324) in view of KAULE et al. (US 5,820,971) and UCHIYAMA et al. (JP 363030843) as applied to claims 4, 2, 12-18 and 29-31 above, and further in view of HARRIS et al. (WO 99/65699).

35. **With respect to claims 16 and 17**, modified SCHMITZ et al. discloses that the magnetic layer can be provided in the form of characters, patterns or the like (Column 5, lines 15 through 25) and that the security element, containing the magnetic pattern, are secured to the document by a radiation-curable adhesive (Column 4, lines 30 through 38). KAULE et al. discloses that the bank paper is coated locally with a special reaction adhesive in a printing unit. The adhesive can be treated like an ink before activation (Column 5, lines 15 through 20). Modified SCHMITZ et al. does not specifically state that the adhesive can be applied to the document by intaglio or flexographic printing. However, HARRIS et al. discloses a method of providing an optically variable effect generating structure and an image on a substrate (Page 1, lines 1 through 5). Optically variable effect generating structures such as diffraction gratings and holograms are frequently used both for decorative and security purposes. In particular, such structures are used on security documents such as identification cards, banknotes and the like to enable such substrates to be authenticated (Page 1, lines 6 through 15). The first state in the process involves the depositing of an adhesive. The adhesive must be printable, preferable to form high resolution images. It is possible to use UV cationic curing resins. The quantity of adhesive applied is also important. Too little and incomplete coverable may occur. Too much and the adhesive will pass between the first layer of tin particles and bind additional layers, resulting in unnecessary material usage (Page 4, lines 15 through 35). The adhesive may be printed using conventional printing techniques such as flexography and intaglio printing (Page 5, lines 9 through 15). Therefore, it would have been obvious to use intaglio or flexographic printing to apply the adhesive to the

document of modified SCHMITZ et al. as taught by HARRIS et al. so as to provide high resolution images and to prevent unnecessary material usage.

36. Claims 3, 5, 32, 38-41, 44, 45, 51-54 and 57 are rejected under 35 U.S.C. 103(a) as being unpatentable over SCHMITZ et al. (US 6,491,324) in view of KAULE et al. (US 5,820,971).

1. **With respect to claims 32 and 45,** SCHMITZ et al. discloses a security element for protecting objects which has at least one mechanically testable magnetic layer and at least one further layer consisting of a layer semitransparent in the visual spectral region such as a security document with such a security element (Abstract). The security element consists of a magnetic layer and a semitransparent layer covering the magnetic layer (Column 2, lines 7 through 10). The semitransparent layer of the security element is formed by a screened layer, the individual screen elements being opaque, preferably metallic. The screen elements can have any desired form. One can use standard geometric shapes such as dots, lines, triangles, etc., as well as special patterns, umbers, letters, etc. The screen width is selected so as to effect a sufficient cover of the magnetic layer while any information present under the screened layer simultaneously also remains recognizable (Column 2, lines 30 through 40). The optically variable layers can be embossed diffraction structures representing for example cinegrams, moviegrams, or holograms (Column 8, lines 15 through 20). The magnetic layer can be provided either all over or only in certain areas independently of the kind of cover layer used. The magnetic layer is applied in the form of a coding, In particular a

bar code. However, the magnetic layer can also contain gaps in the form of visually and/or machine recognizable characters (Column 2, lines 44 through 53). The security element can be incorporated at least partly into a security document. It is also conceivable, however, to form the security element in a band or label shape and fasten it to the surface of an object (Column 3, lines 1 through 8). The term “security document” is not restricted to bank notes however. It can refer to any document of value such as a check, share, ID card or the like (Column 4, lines 5 through 10). If the security element is to be provided only as a thin layer sequence on the security document, it is useful to prepare the layer sequence of the security element separately on a foil material and subsequently transfer it to the document/ first film body (Column 4, lines 16 through 24). The carrier/ transfer film, for example is a transparent plastic foil, is provided in a first step, if necessary, with separation layer which ensures that the layer structure of security element can be detached from the carrier after transfer to the security document. A first semitransparent first cover layer is applied to the separation layer, followed by the magnetic layer. The adhesive layer is then applied over the magnetic layer for fastening. This adhesive layer can be for example a hot-melt adhesive or radiation-curable adhesive (Column 4, lines 25 through 37).

2. Accordingly, SCHMITZ et al. implicitly discloses a process for the production of a security element comprising a transfer film/carrier film with a partial magnetic coating having a radiation-curable adhesive for attaching the magnetic layer to the first carrier/security document to form the second film body including the first. The adhesive layer implicitly represents a pattern, the pattern being the shape of the transfer film.

3. Furthermore, SCHMITZ et al. discloses that if the label-like security elements are to be transferred in certain places with the aid of such a transfer foil, the transfer foil can be provided with the security element layer structure all over and the latter detached and transferred from the all-over coating only in the desired areas, e.g. by selective activation of the adhesive. Alternatively, the carrier material can already be provided with the desired single elements in spaced-apart areas (Column 4, lines 43 through 51).

4. Accordingly, SCHMITZ et al. implicitly teaches applying a partial magnetic coating to first film body.

5. SCHMITZ et al. does not specifically state that the radiation-curable adhesive is a cross linkable adhesive. However, KAULE et al. discloses a security document such as a bank note, identity card or the like, that includes at least one multilayer security element made of at least two layers of reaction lacquer or adhesive between which diffraction structures, in particular holographic structures, exist in the firm of a relief. A reflective layer is additionally disposed between the layers of lacquer. The reaction lacquer of adhesive is the type curable or cross-linkable under physical (e.g. radiation) and/or chemical activation (Abstract). It is possible to produce embossed holograms directly on the antifalsification paper with the aid of light-curing substances in much uncomplicated fashion. Such substances are e.g. blue light-curing or delayed-curing lacquers (Column 2, lines 42 through 47). The firm compound with the document arises from the use of reaction lacquers or adhesives which adhere irreversibly to the document (Column 2, lines 59 through 63). Therefore, it would have been obvious to one having ordinary skill in the art, at the time of the invention, to use a radiation cross

linkable adhesive on the magnetic layer of SCHMITZ et al. as taught by KAULE et al. so as to provide and irreversible bond between the document and security element thereby preventing falsification of value documents.

6. Accordingly, since SCHMITZ et al. teaches adhesive in patterned form, SCHMITZ et al. in view of KAULE et al. implicitly teach a hardened adhesive structured in pattern form, the pattern being the shape of the transfer film.

7. SCHMITZ et al. does not specifically state that the adhesive is applied to a first film body while the magnetic coating is applied to a second film body. *In re Japikse*, 181 F.2d 1019, 86 USPQ 70 (CCPA 1950) states that mere rearrangement of parts is held unpatentable because applying the adhesive to the second film body e.g. bank note, instead of the carrier would not have modified the operation of the device. Alternatively, KAULE et al. discloses that the bank not paper, already printed, exist in web form and is coated locally with a special reaction adhesive in a printing unit (Column 5, lines 12 through 17). Therefore, one having ordinary skill in the art, at the time of the invention, would have considered placing the adhesive on the bank note of SCHMITZ et al. as taught by KAULE et al. so as to selectively apply the security feature to a desired part of the note.

8. Accordingly, SCHMITZ et al. in view of *In re Japiske* and KAULE et al. implicitly teach applying the adhesive in a pattern, the pattern being the shape of the transfer film, on the note/first film body and irradiating to bond the security element to the first film body.

9. SCHMITZ et al. does not specifically state that the magnetic layer remains on the first film body in the first region which is structured in pattern form and in which the adhesive layer is not hardened and is removed with the carrier film in the second region which is structured in pattern form and in which the adhesive layer is hardened. However, UCHIYAMA et al. discloses transferring a pattern to a base without swelling in a lower cost manner by hardening parts of the adhesive not opposite to the pattern with ultraviolet rays so that the pattern is attached to the body with the uncured adhesive (Abstract). Therefore, it would have be obvious to one having ordinary skill in the art, at the time of the invention, to attach the magnetic layer of SCHMITZ et al. to the security document with uncured/unhardened adhesive as taught by UCHIYAMA et al. so as to prevent swelling and to reduce the cost of providing a transfer to the security document.

10. Furthermore, SCHMITZ et al. discloses that the magnetic layer can be provided either all over or only in certain areas independently of the kind of cover layer used. The magnetic layer may be applied in the form of a coding, or a bar code. The magnetic layer can also contain gaps in the form of visually and/or machine recognizable characters (Column 2, lines 44 through 53). If the label-like security elements are to be transferred in certain places with the aid of such a transfer foil, the transfer foil can be provided with the security element layer structure all over and the latter detached and transferred from the all-over coating only in the desired areas, e.g. by selective activation of the adhesive. Alternatively, the carrier material can already be provided with the desired single elements in spaced-apart areas (Column 4, lines 43 through 51).

11. Accordingly, SCHMITZ et al. in view of UCHIYAMA et al. teach removing the carrier film from the second film body including the first film body, the adhesive layer and the magnetic layers so that at the magnetic layers remains on the first film body where the adhesive layer is not hardened and is removed with the carrier where the adhesive is hardened.

37. Furthermore, SCHMITZ et al. discloses that if the label-like security elements are to be transferred in certain places with the aid of a transfer foil, the transfer foil can be provided with the security element layer structure all over and the latter detached and transferred from the all-over coating only in the desired areas, e.g. by selective activation of the adhesive. Accordingly, one having ordinary skill in the art, would appreciate that the adhesive is also either all over the desired area to be magnetized or in a pattern of the magnetic pattern.

38. SCHMITZ et al. and KAULE et al. do not discloses that the irradiation must take place with a mask to direct the irradiating light to the adhesive. Therefore, unless the irradiating light covers **only** the adhesive, then the irradiating implicitly uses a different pattern than the adhesive. Additionally, SCHMITZ et al. in view of *In re Japiske* and KAULE et al. implicitly teach removing the partial magnetic coating with the transfer film in an area where the adhesive is not hardened. The adhesion force between the magnetic coating and the radiation-crosslinkable adhesive is implicitly stronger than between the magnetic coating and the carrier.

39. **With respect to claim 3,** SCHMITZ et al. in view of *In re Japiske* and KAULE et al. implicitly teach applying adhesive to the first film body in a fist pattern, the pattern

being the shape of the designated area to receive the partial magnetic coating, and is irradiated to bond the partial magnetic coating to the first film body, after the second film body and the first film body are contacted. SCHMITZ et al. discloses that the security element layer structure can be transferred in the desired areas, e.g. by selective activation of the adhesive (Column 4, lines 43 through 51). Therefore, the irradiation may be applied in a different pattern than the adhesive pattern. Alternatively, SCHMITZ et al. and KAULE et al. do not discloses that the irradiation must take place with a mask to direct the irradiating light to the adhesive. Therefore, unless the irradiating light covers **only** the adhesive, then the irradiating implicitly uses a different pattern than the adhesive. Additionally, SCHMITZ et al. in view of *In re Japiske* and KAULE et al. implicitly teach removing the partial magnetic coating with the transfer film in an area where the adhesive is not hardened. The adhesion force between the magnetic coating and the radiation-crosslinkable adhesive is implicitly stronger than between the magnetic coating and the carrier.

40. **With respect to claim 5**, please refer to the rejection of claim 3. Furthermore, SCHMITZ et al. does not specifically state that the adhesive regions which have not yet hardened are hardened in a second step. However, by placing the adhesive over the document and selectively attaching the security element in a pattern of the desired security element, areas of adhesive may implicitly be left uncured. Specifically, the adhesive may be applied over an area and then the security element applied over top. Activation of the adhesive in the shape of a bar code may be done to transfer the security element while the areas having no transfer may be left uncured. Thereafter, the

uncured areas would have to be hardened so as to prevent dust and other impurities from sticking thereto, as would have been considered by one having ordinary skill in the art.

41. **With respect to claims 38 and 51**, SCHMITZ et al. does not specifically state that the adhesive is irradiated through the carrier. However, SCHMITZ et al. discloses that the carrier is a transparent plastic foil (Column 4, lines 24 through 30) and that the magnetic layer is provided additionally with gaps in the form of characters, patterns or the like and the carrier is translucent or transparent. This permits gaps to be recognized as highly contrasting characters in the surroundings formed by opaque magnetic material when viewed in transmitted light (Column 5, lines 15 through 25). Furthermore, the adhesive is radiation-curable (Column 4, lines 34 through 38). Therefore, one having ordinary skill in the art, at the time of the invention, would appreciate that the adhesive may be irradiated through the carrier.

42. **With respect to claims 39 and 52**, SCHMITZ et al. does not specifically state that the adhesive is exposed through the document. However, KAULE et al. discloses that adhesives can also use blue light-curing reaction adhesives. This method variant is shown in Fig. 5. Paper web is provided with the blue light-curing reaction adhesive in the printing unit (Column 5, lines 48 through 55). The transfer material and the paper web are brought into contact and irradiated with blue light. The reaction adhesive thereby cures within seconds since the paper is permeable to blue light. The transfer foil can then be removed from the hologram-paper compound in the usual way (Column 5, lines 56 through 60). Therefore, it would have been obvious to one having ordinary skill

in the art, at the time of the invention, to use blue light-curing adhesive to bond the security element to the document of SCHMITZ et al. as taught by KAULE et al. so as to irreversibly attach the security element from the document. Subsequently, one having ordinary skill in the art, at the time of the invention, would have considered radiating through the document to cure the adhesive.

43. **With respect to claims 40 and 53,** SCHMITZ et al. does not specifically state that the adhesive force between the magnetic layer and the carrier is higher than the non-hardened adhesive and the magnetic layer. However, SCHMITZ et al. cures the adhesive to transfer the magnetic layer. Therefore, absent any evidence to the contrary, the adhesive force between the non-cured adhesive is implicitly lower than the adhesive force between the carrier and the magnetic layer.

44. **With respect to claims 41 and 54,** SCHMITZ et al. discloses that the adhesive is a radiation-curable adhesive (Column 4, lines 34 through 38). SCHMITZ et al. does not specifically state that the adhesive is a non-conducting adhesive. However, absent any evidence to the contrary, the adhesive of SCHMITZ et al. is implicitly non-conductive as there is no evidence from SCHMITZ et al. to indicate it is so.

45. **With respect to claims 44 and 57,** SCHMITZ et al. discloses that the transfer film has a release layer between the carrier film and the magnetic layer (Column 4, lines 22 through 40).

46. Claim 6 is rejected under 35 U.S.C. 103(a) as being unpatentable over SCHMITZ et al. (US 6,491,324) in view of KAULE et al. (US 5,820,971) as applied to claims 3, 5, 32, 38-41 and 44 above, and further in view of MULLEN et al. (US 20040190102)..

47. **With respect to claim 6**, modified SCHMITZ et al. discloses that the adhesive is a radiation-curable adhesive. Additionally, modified SCHMITZ et al. discloses that the carrier material can already be provided with the desired single elements in spaced-apart areas (SCHMITZ et al., Column 4, lines 43 through 51). Modified SCHMITZ et al. does not specifically state that the irradiation is done using a mask. However, MULLEN et al. discloses a differentially-cured process that can be used to form security coatings, for example, coatings on documents or currency papers, fibers, threads, films, identification cars, or wrapping film for expensive products (Paragraph [0086]). Fig. 1 illustrates an embodiment for forming a patter, such as exemplary pattern:"ABC" provided by, for example, a mask or pattern layer disposed between a radiation source and a radiation curable material (Paragraph [0042]). Therefore, it would have been obvious to one having ordinary skill in the art, at the time of the invention, to provide a mask to radiate the adhesive of SCHMITZ et al. as taught by MULLEN et al. so as to accurately cure the adhesive pattern to form the security element on the document.

12. Claims 33-35 and 46-48 are rejected under 35 U.S.C. 103(a) as being unpatentable over SCHMITZ et al. (US 6,491,324) in view of KAULE et al. (US 5,820,971) as applied to claims 3, 5, 32, 38-41 and 44 above, and further in view of YADAV (US 20040256986).

13. **With respect to claims 33 and 46**, modified SCHMITZ et al. discloses that the magnetic layer can either be printed (e.g. by screen printing) or applied by coating methods (Column 8, lines 33 through 38). Modified SCHMITZ et al. does not specifically state that the magnetic layer is a layer of magnetic particles. However, YADAV discloses that nanopigments provide color and magnetic performance and can be applied to an article of ceramic, adhesive, paper, fiber, ink or polymeric art. Such colored magnetic nanopigments may be used to create superior security documents, bar codes, inventory tracking technologies, theft prevention tolls, quality assurance, and safety products appealing to customers (Paragraph [0152]. The powders are nanoscale (Paragraph [0150]). Therefore, it would have been obvious to one having ordinary skill in the art, at the time of the invention, to use nanoscale magnetic particles for the magnetic layer of SCHMITZ et al. as taught by YADAV so as to provide superior security features for documents of value.

14. **With respect to claims 34 and 47**, modified SCHMITZ et al. discloses that the magnetic layer may be coated by screen printing onto the carrier (Column 8, lines 33 through 38) and implicitly from a solution. YADAV discloses that the magnetic particles are nanoscale. Therefore, one having ordinary skill in the art, at the time of the invention, would appreciate that the coating of SCHMITZ et al. may contain nanoscale magnetic particles as taught by YADAV so as to provide superior security features for documents of value.

15. **With respect to claims 35 and 48**, modified SCHMITZ et al. discloses that the magnetic layer can either be printed (e.g. by screen printing) or applied by coating

methods (Column 8, lines 33 through 38). Modified SCHMITZ et al. does not specifically state that the magnetic layer is applied by sputtering. However, YADAV discloses that the film can be coated by spin coating, dip coating, spray coating, ion beam coating, plasma coating, and sputtering (Paragraph [0120]). Therefore, one having ordinary skill in the art, at the time of the invention, would appreciate coating the carrier with the magnetic layer of SCHMITZ et al. by sputtering so as to apply the magnetic layer entirely over the carrier.

16. Claims 36, 37, 49 and 50 are rejected under 35 U.S.C. 103(a) as being unpatentable over SCHMITZ et al. (US 6,491,324) in view of KAULE et al. (US 5,820,971) as applied to claims 3, 5, 32, 38-41 and 44 above, and further in view of POWER et al. (EP 0953937).

17. **With respect to claims 36, 37**, **49 and 50**, modified SCHMITZ et al. discloses that a magnetic layer is printed or coated onto the carrier. Modified SCHMITZ et al. does not specifically state that the magnetic material is an amorphous metal glass. However, POWER et al. discloses a security element comprising a magnetic layer and an embossed layer so as to avoid counterfeiting of value documents (Abstract (Item 57)). The soft-magnetic amorphous metal glass thin film coating may be deposited by sputtering to achieve the desired magnetic properties (Paragraph [0053]). The soft-magnetic layer consists essentially of an alloy containing cobalt, iron, silicon and boron (Paragraph [0042]). A soft-magnetic material only shows magnetic properties when exposed to a magnetic field while hard-magnetic materials show permanent magnetic

properties (Paragraph [0017]). Therefore, it would have been obvious to one having ordinary skill in the art, at the time of the invention, to use soft-magnetic materials for the security element of SCHMITZ et al. as taught by POWER et al. so as to provide greater security for documents of value. Additionally, it would have been obvious to one having ordinary skill in the art, at the time of the invention, to sputter the layer of magnetic material of SCHMITZ et al. as taught by POWER et al. so as to provide the desired magnetic properties thereby allowing for tailoring of the security feature and providing for greater security of the document of value.

18. Claims 42, 43, 55 and 56 are rejected under 35 U.S.C. 103(a) as being unpatentable over SCHMITZ et al. (US 6,491,324) in view of KAULE et al. (US 5,820,971) as applied to claims 3, 5, 32, 38-41 and 44 above, and further in view of HARRIS et al. (WO 99/65699).

19. **With respect to claims 42, 43, 55 and 56**, modified SCHMITZ et al. discloses that the magnetic layer can be provided in the form of characters, patterns or the like (Column 5, lines 15 through 25) and that the security element, containing the magnetic pattern, are secured to the document by a radiation-curable adhesive (Column 4, lines 30 through 38). KAULE et al. discloses that the bank paper is coated locally with a special reaction adhesive in a printing unit. The adhesive can be treated like an ink before activation (Column 5, lines 15 through 20). Modified SCHMITZ et al. does not specifically state that the adhesive can be applied to the document by intaglio or

flexographic printing. However, HARRIS et al. discloses a method of providing an optically variable effect generating structure and an image on a substrate (Page 1, lines 1 through 5). Optically variable effect generating structures such as diffraction gratings and holograms are frequently used both for decorative and security purposes. In particular, such structures are used on security documents such as identification cards, banknotes and the like to enable such substrates to be authenticated (Page 1, lines 6 through 15). The first state in the process involves the depositing of an adhesive. The adhesive must be printable, preferable to form high resolution images. It is possible to use UV cationic curing resins. The quantity of adhesive applied is also important. Too little and incomplete coverable may occur. Too much and the adhesive will pass between the first layer of tin particles and bind additional layers, resulting in unnecessary material usage (Page 4, lines 15 through 35). The adhesive may be printed using conventional printing techniques such as flexography and intaglio printing (Page 5, lines 9 through 15). Therefore, it would have been obvious to use intaglio or flexographic printing to apply the adhesive to the document of modified SCHMITZ et al. as taught by HARRIS et al. so as to provide high resolution images and to prevent unnecessary material usage.

Conclusion

20. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP

§ 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to ALEX EFTA whose telephone number is (571)270-7604. The examiner can normally be reached on Mon-Thurs 6:00am-4pm EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Phillip Tucker can be reached on (571)272-1095. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/ALEX EFTA/
Examiner, Art Unit 1745

/Philip C Tucker/

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